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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,422	01/10/2002	Kazumitsu Nakatsuka	217962US0PCT	5990
22850	7590	08/10/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FUBARA, BLESSING M	
			ART UNIT	PAPER NUMBER
			1618	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/030,422		NAKATSUKA, KAZUMITSU	
	<b>Examiner</b>		<b>Art Unit</b>	
	Blessing M. Fubara		1618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-19,21 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-19,21 and 25-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/19/05</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

*MC*

*TD*

### **DETAILED ACTION**

Examiner acknowledges receipt of IDS filed 04/19/05; request for extension of time, amendment and remarks, all filed 05/20/05. Claims 7-19, 21 and 25-28 are pending.

#### ***Response to Amendment***

Claim 7 is not amended. The proper status identifier should be ---previously presented--- and not "currently amended.

#### ***Claim Rejections - 35 USC § 102***

1. The rejection of claims 7-19 and 21 under 35 U.S.C. 102(b) as being anticipated by Vermeer (US 5,624,906) is withdrawn in light of applicant's persuasive argument.
2. Claims 7-13, 15-19 and 21 remain rejected under 35 U.S.C. 102(b) as being anticipated by Smith, Jr. (US, 5,399,343).

Applicant argues that Smith does not simultaneously contain components a, b and c.

3. Applicant's arguments filed 05/20/05 have been fully considered but they are not persuasive.

Smith as stated in the office action contains a, b and c.

Smith discloses a biocidal cosmetic composition (title). The composition comprises polymerizable carboxylic acid (column 3, lines 60-67), which meets the limitations of 7(b) and which are partially neutralized by alkali metals and amines such as trimethylamine, tributylamine, mono-, di-, and triethanolamine (column 2, lines 63 and 64; column 4, lines 5-8) and these amines meet the limitations of 7(e); acrylate copolymerizable monomer (column 4, lines 57-68; column 5, lines 1-20) meeting the

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limitations of 7(c), 15-19; pyridinium salts as antimicrobial agent (column 6, lines 46-59) meeting the limitation of 7(a) and 8-10; the solution of the polymer is neutralized with sodium hydroxide (column 7, lines 12; column 8, line 23). The broad scope of the designated claims read on Smith.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-19, 21 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imazato et al. (US 5,733,940 and previously cited).

Imazato provides an antimicrobial dental composition comprising an antimicrobial polymerizable monomer, a polymerizable monomer having acidic group, a polymerizable monomer having alcoholic hydroxy group, water and a polymerization catalyst (column 2, lines 27-34) and discloses that the composition may be mixed with dental acrylic adhesive comprising polymerizable monomer of acrylic base and polymerization initiator (column 6, line 66 to col. 7, line 27,). Imazato also discloses pyridinium antimicrobial agent and the antimicrobial pyridinium has polymerizable group. Imazato discloses 12-methacryloxydodecylpyridiniumbromide (MDPB) having the chemical structure shown in Formula 4 as the antimicrobial polymerizable monomer used in the invention (Examples 1-24 and claim 5). MDPB is an antibacterial polymerizable pyridinium salt compound, as claimed by Applicant.

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With regard to the polymerizable monomer having acidic group (b) claimed in claim 7 of the instant application, the patent discloses polymerizable monomers having acidic group, such as phosphoric acid, carboxylic acid or sulfonic acid group, and includes methacryloyloxydecyl dihydrogen phosphate (MDP) among said polymerizable monomers (column 5, lines 20-60 and Examples 5-12).

With respect to the hydrophilic polymerizable monomer (c) claimed in claim 7 of the instant application, the patent discloses polymerizable monomers having alcoholic hydroxy group, and includes 2-hydroxyethyl methacrylate (HEMA) among said monomers (column 5, line 61 to column 6, line 11 and Examples 1-8). The polymerizable monomers having alcoholic hydroxy group disclosed by the Imazato, and specifically HEMA, are hydrophilic polymerizable monomers, as claimed by Applicant. With respect to the water (d) claimed in claim 7 of the instant application, Imazato provides water substantially free of impurities in the composition of the invention (See col. 6, lines 12-21).

Imazato does not disclose the presence of base such as sodium in the dental composition. However, it is well known to provide compositions that have suitable pHs to biological environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a base to the composition in order to adjust the pH to dental environment acceptable pH in the dental milieu.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blessing M. Fubara whose telephone number is (571) 272-0594. The examiner can normally be reached on 7 a.m. to 3:30 p.m. (Monday to Friday).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Blessing Fubara  
Patent Examiner  
Tech. Center 1600

A handwritten signature in black ink, appearing to read "Blessing Fubara", is written over the printed name of the examiner.